REMARKS

Furuichi teaches that a rubber optical fiber 55, which

"...comprises a three-layer structure of a core 58, a cladding layer 59, and a coating material layer 60, as shown in FIG. 3. Since each of the core 58, the cladding layer 59, and the coating material layer 60 is made of a rubber material, the rubber optical fiber 55 has a good flexibility. For example, a transparent silicone rubber having a high refractive index, a transparent silicone rubber having a low refractive index, and a fluorocarbon rubber may be used for the core 58, the cladding layer 59, and the coating material layer 60, respectively." See col. 8, line 51 – col. 9, line 3.

"That is, when the fuel tank 1 mounted on a vehicle receives an impact caused by a crash of the vehicle, the force thereof is transmitted to the rubber optical fiber 55. A predetermined light quantity is constantly supplied into the rubber optical fiber 55 from the light emitting diode 62. However, when the rubber optical fiber 55 receives an impact, i.e., an external force, the light quantity transmitted through the rubber optical fiber 55 is changed by the external force." See col. 10, lines 43-50.

Furuichi is used to determine a traumatic crack or deformation by a crack.

Furuichi never mentions pinch points and should not be and can not be used as a reference for that unique feature of the present invention as claimed.

Tamura has a three layer molded fuel tank and has nothing to do with the present invention.

"FIG. 2 shows in longitudinal section the interior construction of the fuel tank 1. The fuel tank 1 has a multi-layered wall structure comprised of a dome-shaped protective layer 23 as an outer layer, a shell 24 as an intermediate layer, and a liner 25 as an inner layer. Each layer is

formed of a non-metallic material to make the fuel tank 1 lighter in weight and corrosion-resistant. Preferably, as the non-metallic material, suitable materials have been selected to obtain required strength and fluid impermeability of the fuel tank 1. For example, a fiber-reinforced resin (G-FRP) is employed for the dome-shaped protective layer 23 to secure required shock resistance, a composite carbon fiber for the shell 24 to maintain required strength, and high density polyethylene for the liner 25 to maintain required impermeability against fluid such as the compressed natural gas." See Tamura col 5, lines 24-40.

There is nothing that would have suggested why or how Furuichi and Tamura may have been combined. Their combination, even if combined by hindsight, would not have rendered obvious the present invention as claimed.

Claims 5-18 and 21-23, in which a rejection relies on a combination of Furuichi and Tamura, should be allowed.

Watanabe does not add and could not have added anything to other references. Watanabe is completely and simply a plain aluminum tank. See col. 1, lines 4-17:

"A fuel cylinder or tank to be mounted on a natural gas vehicle is one such as a light weight aluminum liner tank or non-metallic liner tank which is expanded and deformed when filled with the fuel. As a method for mounting and fixing such a fuel cylinder which expands and contracts itself onto a vehicle, a practice to fasten the fuel cylinder by a fixing band with spring is known. FIGS. 4 and 5 show rough construction of the fixing band."

Nothing in Watanabe would have suggested any way in which Furuichi or Tamura could have been modified. Tamura specifically teaches against using Watanabe, stating that Tamura's tank is non metallic.

Claims 5-7 and 21-23, in which a rejection relies on incorporating Watanabe, should be allowed.

Innocenti winds one thin optical fiber, col. 2, line 16, specifically with no cross overs and with

"...a plurality of Bragg grating reflective elements 5, ...5n..." col. 2, lines 36-37.

Innocenti has no crossovers and specifically teaches away from cross overs as described and claimed in the present invention.

Claims 15-18 and 21-23, in which rejections specifically rely upon Innocenti, should be allowed.

Hopenfeld's fibers reflect light under normal conditions. When fuel leaks

"...the oil soluble epoxy 52 is dissolved and washed away such that light emitting particles will be removed". Col 4, lines 52-54.

Hopenfeld has nothing to do with the present invention. It is impossible to see how washing away oil or water soluble epoxy could be used in any way in the present invention or in the other references.

Rejections of claims 21-23 based on Hopefeld should be withdrawn.

The invention is new and unobvious. None of the references shows the new and unobvious features of the invention, as claimed. In fact, each of the references teaches away from the invention. Hopenfeld teaches water or oil soluable epoxy that washes away. Innocenti teaches a single fiber with no cross overs. Watanabe teaches a plain aluminum tank, nothing else. Tamura teaches a non metallic multi-layer tank, nothing else. Furuichi has no pinch points and his rubber covered optical fiber reacts to traumatic external impacts such as a vehicle crash, not to pinching.

No reference or combination of references would have made the present invention, as claimed, obvious.

CONCLUSION

Reconsideration and allowance of all claims are requested.

Respectfully,

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